

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 24 and 27-46 are pending in the present application, Claim 24 having been amended by way of the present amendment. Support for amendments to the claims can be found in the disclosure as originally filed. Thus, no new matter is added.

In the outstanding Office Action, Claim 24 was rejected under 35 U.S.C. §112, second paragraph as indefinite; Claims 24, 27-40 and 43 were rejected under 35 U.S.C. §103(a) as unpatentable over Zinky et al. (U.S. Patent No. 6,480,879, hereinafter Zinky) in view of Shastri (U.S. Pat. Pub. No. 2002/0065922) and Rinne et al. (U.S. Pat. No. 6,711,141, herein "Rinne"); and Claims 41, 42 and 44-46 were rejected under 35 U.S.C. §103(a) as unpatentable over Zinky, Shastri and Rinne in further view of Neureiter et al. ("The BRAIN Quality of Service Architecture for Adaptable Services with Mobility Support", herein Neureiter).

With respect to the rejection of Claim 24 under 35 U.S.C. §112, second paragraph, Claim 24 has been amended to replace the term "Session" with "User" in order to ensure clarity in the claim. Accordingly, Applicants respectfully request that the rejection of Claim 24 under 35 U.S.C. §112, second paragraph be withdrawn.

Addressing now the rejection of Claim 24, 27-40 and 43 under 35 U.S.C. §103(a) as unpatentable over Zinky, Shastri, and Rinne, this rejection is respectfully traversed.

Amended Claim 24 recites, in part,

...a finite state machine associated with a User Context,  
a finite state machine associated with an Application Context  
nested in said finite state machine associated with said User  
Context and a finite state machine associated with a Session  
Context nested in said finite state machine associated with said  
Application Context,

wherein said User Context, said Application Context  
and said Session Context each identify an arrangement of

quality-of-service specifications enforceable through a set of streams belonging to a given user, multimedia application and telecommunication session, respectively, the given user partaking in the given telecommunication session by means of executing the given multimedia application,

wherein said middleware derives quality-of-service specifications of an Application Context from the quality-of-service specifications of the nesting User Context and quality-of-service specifications of a Session Context from the quality-of-service specifications of the nesting Application and User Contexts, and

wherein said arrangements of quality-of-service specifications identified in said User Context, said Application Context and said Session Context are specified by said multimedia applications using said application programming interface.

Zinky describes a system that determines a quality of service and regulates activity in a distributed system based on the determined quality of service. Further, Zinky discloses a measurement of actual QoS.<sup>1</sup>

Shastri describes a system in which a client automatically switches servers. Further, Shastri describes that a server is selected based on a comparison of the actual QoS provided by a current server with the estimated QoS of an alternate server. In one embodiment, Shastri describes selecting a server with an estimated QoS that is better than the actual QoS of the current server. In an alternate embodiment Shastri describes that a new server is selected only if the QoS of the current server is below some predetermined threshold.

However, the combination of Zinky and Shastri does not describe or suggest that said middleware derives quality-of-service specifications of an Application Context from the quality-of-service specifications of the nesting User Context and quality-of-service specifications of a Session Context from the quality-of-service specifications of the nesting Application and User Contexts, as is recited in Claim 24.

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<sup>1</sup> See Zinky, c. 6, l. 18-21 or the "provided replicas system condition" described in c.6, l.62 to c.7, l.57.

Nevertheless, the outstanding Action cites Rinne as curing the deficiencies of Zinky and Shastri with regard to this feature of the claimed invention.

Rinne describes a mobile station which includes a “QMOC” element which receives or retrieves the definitions pertaining to an application and on that basis realizes a PDP context<sup>2</sup> of the mobile station. In order to receive the definitions, the QMOC comprises one or several source interfaces, whereby the sources include Socket API and user definitions.<sup>3</sup> The socket API is a programming interface pertaining to the user of applications.<sup>4</sup>

The outstanding Action cites col. 4, lines 33-41 as disclosing the above noted features of the claimed invention. Applicants note that this portion of Rinne states that in the case of the Socket API, the QMOC receives the QoS data and filter data from the Socket API, when the data transfer pertaining to the application is initiated, whereby the QMOC contains information in order to convert the external definition pertaining to the level of service of the application to a QoS profile of the UMTS system.

In other words, the QMOC of Rinne receives QoS definitions from applications via the Socket API and converts the application specific QoS definitions from a format different from a QoS profile of the UMTS system to a format of a QoS profile of the UMTS system. No QoS specifications relating to a session (context) and no QoS specification relating to a user (context) are disclosed in this section of Rinne or any other portion of Rinne.

Moreover, no derivation of QoS specifications relating to a session context from QoS specifications relating to an application (context) or user (context) is disclosed by Rinne or by the combination of Zinky, Shastri, and Rinne.

In addition, the outstanding Action further cites col. 4, lines 42-50 as disclosing the above noted features of the claimed invention. Applicants note that this portion of Rinne

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<sup>2</sup> See PDP context described in col. 1, lines 43-55 of Rinne.

<sup>3</sup> See col. 4, lines 24-32 of Rinne.

<sup>4</sup> See col. 4, lines 15-17 of Rinne.

states that, in the case of User Definitions, a connecting forming application which gives the user an interface to the QMOC is integrated in the mobile station. In this case, the user can give definitions about the data transfer of different applications as needed.

In other words, a user defines QoS specifications of or for an application. However, no QoS specifications pertaining to a user (context) are disclosed in this section of Rinne. Moreover, no derivation of QoS specifications pertaining to an application (context) from QoS specifications pertaining to a user (context) is disclosed by Rinne or by the combination of Zinky, Shastri, and Rinne.

Thus, Applicants respectfully submit that the combination of Zinky, Shastri, and Rinne fails to describe or render obvious separate QoS specifications for a User, an Application and a Session, respectively.

In addition, with regard to the Shastri reference, the outstanding Action appears to assert on pages 4-5 that the user, the on-line session and player software of Shastri corresponds to the user, multimedia application and telecommunication session of the claimed invention, respectively.

In the claimed invention, a User Context, an Application Context and a Session Context each identify an arrangement of quality-of-service specifications enforceable through a set of streams belonging to a given user, multimedia application and telecommunication session, respectively. Thus, *separate quality-of-service specifications* are defined for a user, a multimedia application, and a telecommunication session.

As is noted above, Shastri discloses a user establishing an on-line session with a multimedia server for the purpose of downloading and playing streaming content with player software.<sup>5</sup>

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<sup>5</sup> See Shastri, [0061].

However, Applicants note that *different quality-of-service specifications for the user, the application and the session are not mentioned at all* in Shastri. In addition, with regard to the quality-of-service, Shastri does not make any distinction between user, application and session. Instead, Shastri discloses *only a single threshold value* (i.e. a single QoS specification) which equivalently relates to session, user and application.<sup>6</sup> Therefore, the combination of Zinky, Shastri, and Rinne does not teach or suggest quality-of-service specifications enforceable through a set streams belonging to a user, quality-of-service specifications enforceable through a set of streams belonging to a multimedia application and quality-of-service specifications enforceable through a set of streams belonging to a telecommunication session.

Accordingly, Applicants respectfully submit that Claim 24 and claims depending therefrom, patentably distinguish over Zinky, Shastri, and Rinne considered individually or in combination.

Moreover, the further cited Neureiter reference does not cure the above noted deficiencies of Zinky, Shastri, and Rinne with regard to the claimed invention.

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<sup>6</sup> See Shastri [0066]

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 24 and 27-46, as amended, is patentably distinguishing over the cited art. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

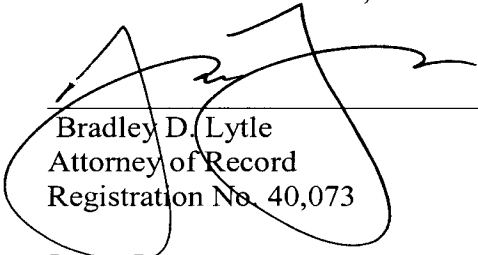
Respectfully submitted,

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